type of chromosome reduction must take place or the group of organisms would increase in numbers of chromosomes. This reduction takes place when the gametes are produced. Using single scarlet which probably has 26 chromosomes we can follow this:

(Male parent ---> sperm)
26 ----------> 13
(Female parent --> egg) > fertilization ----------> 26
26 ----------> 13 new plant

Obviously this is one whole generation with seeds, seedling, plant, flower, and fruit. We now can say that the diploid (2N) condition of this plant is 26. That is, there are 26 chromosomes in each cell. The diploid number is constant and we can expect to find all single scarlet plants to have 26 chromosomes. Also the sperm and egg have half the diploid number, or are said to be haploid (1N) (thirteen in this case).

(Cont'd)

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The technique for counting of chromosomes involves killing and fixing the cells at the right stage of cell division so the DNA in the chromosome configuration is clear and concise. It takes detailed work and patience. The deoxy-ribose present in the DNA is the basis for the staining of the chromosomes.

List of Materials:

1 microscope capable of 1,000 diameters
(magnifying power)
Glass slides and cover slips
One liter of distilled or de-ionized water
Kerr sticky wax
Acetic acid 50%
Carmine powder
Hydrochloric acid 5%
Ferric Hydrate
Aceto-carmine preparation

Add carmine powder to the acetic acid solution until saturated. Boil, cool and filter. Add a few drops of ferric hydrate solution (dilute the ferric

(Cont'd)

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